

AN UNUSUAL PELAGE COLOUR OF THE COMMON SHEATH-TAILED BAT, *TAPHOZOUS GEORGIANUS*, FROM THE PILBARA OF WESTERN AUSTRALIA

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An adult female Common Sheath-tailed Bat, *Taphozous georgianus*, with light grey coloured pelage was captured near Paraburdoo on 5 May 1998. The animal was captured with a mist net from a cave in the Eastern Ranges, south of the town (23°15'05"S 117°39'33"E; AMG 50 567460E 7428470S). The cave was in Hamersley Formation geology, more specifically, in a layer of shale which had been folded so that the cave was orientated vertically. *T. georgianus* has been recorded by us roosting in caves throughout the Hamersley Range, including those formed in the vertical fissures which result when folding of bedding causes cracks perpendicular to the bedding plane, and also in caves under residual caps of hills and mesa formations. The cave near Paraburdoo was fronted by a pool which appears to be semi-permanent. Trapping was carried out during the day. Approximately 12 other normal-coloured individuals of the same species were present in the same cave. The animal was lodged with the Western Australian Museum (Accession Number

M51282) and identified as *T. georgianus* and distinguished from the morphologically similar Hill's Sheath-tailed Bat, *T. hilli* by measurements of the forearm (Table 1), the absence of a throat pouch or bare patch on the throat (Churchill 1998) and skull morphology.

Churchill (1998) describes the normal pelage and wing membrane colour of *T. georgianus* as "light charcoal grey on the back but slightly brownish on the rump... on the belly is brownish..." "The grey wings have a translucent quality".

For this paper, pelage and wing membrane colour was determined by comparison with Ridgway's (1912) colour standards. We determined the colour of the pelage (both dorsal and ventral) and wing membrane of normal *T. georgianus* from Western Australia (n=4) to be Blackish Brown. In the specimen collected from Paraburdoo, the colour of the dorsal and ventral pelage was similar, being Gray (Pale Gull Gray), with white roots (Figure 1).

Table 1. Measurements (millimetres and grams) of *Taphozous georgianus* specimen.

Fore Arm	Ear	Tragus	Tibia	3 met	Tail	SVL	Weight
68	21.6	5.6	29.1	62.3	32.9	79.1	36.6



Figure 1. Unusual leucistic pelage colour of *T. georgianus* collected from near Paraburadoo, Pilbara region (A: dorsal; B: ventral).

After being preserved in alcohol, the fur colour resembles Pallid Purplish Gray. The wingtips were of a similar colour to normal individuals (Blackish Brown), however the colour of the plagiopatagium and uropatagium close to the body were Buckthorn Brown (a brownish-yellow colour) and with flashes of pale translucent yellow. The snout and ears were darker coloured (Blackish Brown) as in normal animals and eye pigmentation was normal.

This individual can be considered as a leucistic colour morph of *T. georgianus* rather than an albino form since pigmentation was present in the eyes, the wing membrane and areas around the head. Leucistic animals have black eyes rather than red. Colour morph variation is presumably rare in *T. georgianus* as this is perhaps the first record of such an individual.

Pelage colour polymorphisms are prevalent in other bat species such as the Orange Leaf-nosed Bat, *Rhinonictis aurantius*. A range of different colours, from orange to yellow, fawn and white have been recorded in this species, even at the same locations although the frequency of some colours varies with location (Churchill *et al.* 1988; Jolly 1988). Bats in the family Hipposideridae and Rhinolophidae characteristically show some variation in pelage colour (Nowak 1999). Geographic variation in pelage colour is also observed in the Ghost Bat, *Macroderma gigas*, with Queensland, Arnhem Land and Kimberley individuals tending to be darker (a combination of brownish drab and plumbeous) than individuals in the remainder of the range (Douglas 1962; Nowak 1999). Most species in the Emballonuridae are grey, brown or black, with the exceptions being the South American bats *Dididurus* which have white or light grey pelage and

Peropteryx (*Peronymus*) which has white wings (Nowak 1999).

The *T. georgianus* collected from Paraburdoo appears to be a rare colour variant. The genetic basis for the leucistic character may be a rare recessive gene. In this scenario, back cross mating between the F1 generation and the parent would result in a 25% chance of leucistic offspring. If this were the case, it might be evidence of high site fidelity and high relatedness in colonies of *T. georgianus*, with colonies composed of family groups.

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